

Abstract Submitted  
for the DAMOP16 Meeting of  
The American Physical Society

**Rate-coefficients and polarization results for the electron-impact excitation of Ar<sup>+</sup> ion**<sup>1</sup> RAJESH SRIVASTAVA, DIPTI DIPTI, Indian Institute of Technology (I.I.T.) Roorkee, India — A fully relativistic distorted wave theory has been employed to study the electron impact excitation in Ar<sup>+</sup> ion. Results have been obtained for the excitation cross-sections and rate-coefficients for the transitions from the ground state  $3p^5$  ( $J=3/2$ ) to fine-structure levels of excited states  $3p^44s$ ,  $3p^44p$ ,  $3p^45s$ ,  $3p^45p$ ,  $3p^43d$  and  $3p^44d$ . Polarization of the radiation following the excitation has been calculated using the obtained magnetic sub-level cross-sections. Comparison of the present rate-coefficients is also done with the previously reported theoretical results for some unresolved fine structure transitions.

<sup>1</sup>Work is supported by DAE-BRNS Mumbai and CSIR, New Delhi.

Rajesh Srivastava  
Indian Institute of Technology (I.I.T.) Roorkee, India

Date submitted: 15 Feb 2016

Electronic form version 1.4